

US011210843B1

(12) United States Patent Coffey et al.

•

(54) VIRTUAL-WORLD SIMULATOR

(71) Applicant: **Disney Enterprises, Inc.**, Burbank, CA

(72) Inventors: Dane M. Coffey, Burbank, CA (US); Evan M. Goldberg, Burbank, CA (US); Steven M. Chapman, Newbury Park, CA (US); Daniel L. Baker, Los Angeles, CA (US); Matthew Deuel, Playa Vista, CA (US); Mark R. Mine,

Canyon Country, CA (US)

(73) Assignee: **Disney Enterprises, Inc.**, Burbank, CA

(US)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 16/929,912

(22) Filed: Jul. 15, 2020

(51) Int. Cl.

G06T 15/20 (2011.01)

G05B 19/4155 (2006.01)

G06T 7/20 (2017.01)

G06T 15/00 (2011.01)

(52) U.S. Cl.

(58) Field of Classification Search

None

See application file for complete search history.

(10) Patent No.: US 11,210,843 B1

(45) **Date of Patent:**

Dec. 28, 2021

(56) References Cited

U.S. PATENT DOCUMENTS

2010/0157063	A1*	6/2010	Basso G09F 9/35
2014/02/7220		0/2014	348/169
2014/026/228	Al*	9/2014	Ofek G06T 19/20 345/419
2017/0151484	A1*	6/2017	Reilly A63B 69/0024
2020/0368616	A1*	11/2020	Delamont A63F 13/25

OTHER PUBLICATIONS

"AR Portal's: A window to captivating immersive AR experiences" by Unknown. (Medium 2018).

"Cinemood 360 Portable Projector Offers Kid-Friendly VR Experiences, No Headset Required" by Kyle Melnick. (VRScout 2019).

* cited by examiner

Primary Examiner — Frank S Chen

(74) Attorney, Agent, or Firm — Farjami & Farjami LLP

(57) ABSTRACT

In one implementation, a virtual-world simulator includes a computing platform having a hardware processor and a memory storing a software code, a tracking system communicatively coupled to the computing platform, and a projection device communicatively coupled to the computing platform. The hardware processor is configured to execute the software code to obtain a map of a geometry of a real-world venue including the virtual-world simulator, to identify one or more virtual effects for display in the real-world venue, and to use the tracking system to track a moving perspective of one of a user in the real-world venue or a camera in the real-world venue. The hardware processor is further configured to execute the software code to control the projection device to simulate a virtual-world by conforming the identified one or more virtual effects to the geometry of the real-world venue from a present vantage point of the tracked moving perspective.

24 Claims, 6 Drawing Sheets



